

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 December 2004 (02.12.2004)

PCT

(10) International Publication Number
WO 2004/104613 A1

(51) International Patent Classification⁷: **G01R 33/385**

(21) International Application Number:
PCT/IB2004/001507

(22) International Filing Date: 19 April 2004 (19.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/472,024 20 May 2003 (20.05.2003) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

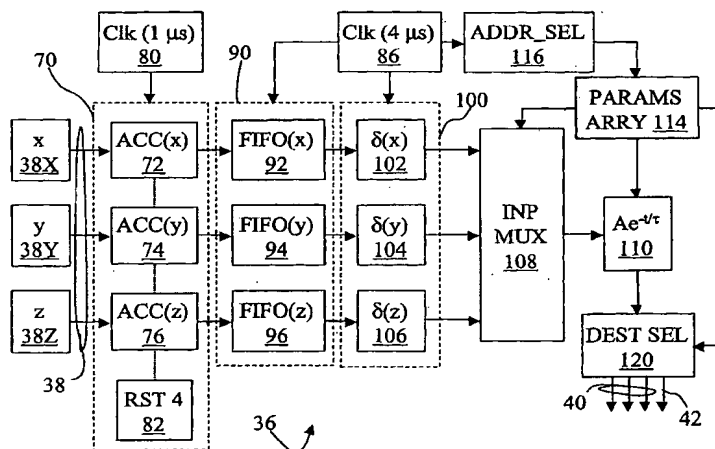
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **DIGITAL MAGNETIC RESONANCE GRADIENT PRE-EMPHASIS**



(57) Abstract: A magnetic field gradient system includes a magnetic field gradient coil (20) and a magnetic field gradient amplifier (30) that operatively communicates with the magnetic field gradient coil (20). A pre-emphasis digital circuit (36) receives a digital magnetic field gradient control signal and outputs pre-emphasis correction terms. The preemphasis digital circuit includes a delay circuit (92) that delays the digital magnetic field gradient control signal by a selected time interval to produce a delayed digital magnetic field gradient control signal. A plurality of digital filters (110) each have selected time constant and amplitude parameters. The digital filters (110) receive the delayed digital magnetic field gradient control signal and output the pre-emphasis correction terms. A parameters memory (114) stores at least the time constant and amplitude parameters of the digital filters (110).

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